

REMARKS

The examiner is thanked for a thorough examination of the present patent application.

Claims 1-16 are pending in the application with Claims 1, 8, and 15 as Independent Claims.

I. IN THE SPECIFICATION

Paragraph [0031] was objected to as having “bit period” misspelled as “but period.” Office Action, p. 2. The Specification does not include paragraph [0031]; however, paragraphs [0025] and [0026] of the Specification are amended herein to correct “but period” to “bit period.”

II. OBJECTIONS TO THE CLAIMS

Claims 13 and 14 were objected to because, as originally filed, an apparatus (the storage) in claim 13 incorrectly refers back to a method in claim 5. This lead to rejections of Claims 13 and 14 under 35 U.S.C. 112, second paragraph, as having insufficient antecedent basis for certain limitation in the claims.

Claim 13 is currently amended to depend from Claim 8 thereby overcoming the rejection and the objection. Claim 14 depends on Claim 13. Accordingly, the current amendment to Claim 13 also overcomes the rejection and the objection of Claim 14.

III. CLAIM REJECTION UNDER 35 USC 102(e)

Claim 1 was rejected under 35 U.S.C. 102(e) as being anticipated by Miller (U.S. Patent No. 6,311,138). The applicant respectfully traverses. Nonetheless, the applicant currently amends, without prejudice, Claim 1 to even more clearly recite the present invention.

Oscilloscopes are commonly used to display various electronic signals for the purposes of studying and analyzing the signals. For closer examination of the signal, it is useful to display a single cycle of a signal rather than many cycles. In order to display a single complete signal, the oscilloscope needs to be set, or scaled, with the period of the signal cycle; however, this information may not be available if the signal is of an unknown period, unknown type (return-to-zero type or non-return-to-zero type), or both.

In fact, for **return-to-zero (RZ) type signals, the signal may not even have a recognizable cycle.** An example of this is illustrated as RZ signal 12 of Figure 1 of the present invention. It is especially true in highly-jittered signals.

In the present invention as recited in the Claims and explained in the Specification, the unknown signal is **automatically scaled** by the steps of, *inter alia*,

“searching for a zero space pattern in the sampled signal;
locating a first zero space;
locating a second zero space, following the first zero space;
calculating bit period of the input signal by determining time period between the first zero space and the second zero space; and

displaying the input signal using the calculated bit period as the basis for a scale.”
Claim 1 (currently amended).

Again, this is performed on signal having **unknown cycle** or even **no cycles**. Accordingly, as recited in Claim 1, a **bit period** needs to be determined by locating at least two zero spaces.

In fact, if the cycles are known or readily determinable, then the present invention would have been unnecessary.

The applicant respectfully submits that the Miller reference teaches none of these steps.

Accordingly to the Miller reference, its **first step** is to determine the cycle of the input signal:

“Additional features in further implementations derive

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parameters by **first** identifying cycles in the signal and
then calculating the parameters for each of these cycles.”
Miller, column 3, lines 12-13 (bold added).

The Office Action alleges that the Miller reference anticipates Claim 1 because the Miller reference identifies cycles and that the Miller reference calculates parameters. Office Action, p. 4. Further, the Office Action alleges that the “parameter for each cycles is also interpreted to include ‘a zero space pattern’” Id. (bold added). The applicant respectfully traverses such interpretation.

Firstly, even if the Office Action’s interpretation is correct (which it is not), the Miller reference “calculating the parameters (including the alleged calculation for a zero space pattern)” **after** “identifying cycles in the signal” which is performed **first**. Miller, column 3, lines 12-13 (bold added).

In contrast, in the present invention as recited in Claim 1, zero space pattern is searched for first, before the bit period is calculated. In fact, if a cycle is identified already (as is done in the Miller reference), then the zero space pattern need not be located. The cycle is the bit period.

More important, the Miller reference fails to teach the step of using the zero space patterns to calculate a bit period. Indeed, the Miller reference discusses period of time wherein each cycle is above or below a threshold. Miller, column 5, lines 50-60. However, in the Miller reference, such time measurements are “derived parameters” which are determined **after the cycle is already identified and displayed** on the oscilloscope. See, e.g., Miller Figure 4, step box 214; Miller Figure 6, step by 218; Miller Claims 1, 8, and 14.

In contrast, in the present invention, the first and the second zero spaces are located **before** the bit period is determined. In fact, in the present invention, the location of the zero spaces and the determination of the bit period must be determined before displaying the signal.

In summary, the Miller reference teaches a method of “**simultaneous**

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primary measurement and derived parameter display" of the input signal and various parameters of the input signal. Miller, Title (bold added). In contrast, the present invention and Claim 1 recite a method of determining a bit period for the purposes displaying the input signal; the determination performed by locating two zero spaces and calculating the bit period **before** displaying the signal.

For at least these reasons, the applicant respectfully submits that Claim 1 is allowable over the Miller reference.

Independent Claims 8 and 15 were rejected under 35 U.S.C. 102(e) as being anticipated by Miller (U.S. Patent No. 6,311,138). The applicant respectfully traverses. Nonetheless, the applicant currently amends, without prejudice, Claims 8 and 15 to even more clearly recite the present invention. Though different in scope, Claims 8 and 15 recite similar limitations as Claim 1. The applicant respectfully submits that Claims 8 and 15 are allowable over the cited reference for at least the same reasons for which Claim 1 is allowable.

Dependent Claims 4-7 were rejected under 35 U.S.C. 102(e) as being anticipated by the Miller reference. The applicant respectfully traverses. Claims 4-7 depend, directly or ultimately, on Claim 1, currently amended. The applicant respectfully submits that Claims 4-7 are allowable for at least the same reasons for which Claim 1, currently amended, is allowable. See, e.g., *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Dependent Claims 11 and 12 were rejected under 35 U.S.C. 102(e) as being anticipated by the Miller reference. The applicant respectfully traverses. Claims 11 and 12 depend, directly or ultimately, on Claim 8, currently amended. The applicant respectfully submits that Claims 11 and 12 are allowable for at least the same reasons for which Claim 8, currently amended, is allowable. See, e.g., *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Dependent Claim 16 was rejected under 35 U.S.C. 102(e) as being anticipated by

the Miller reference. The applicant respectfully traverses. Claim 16 depends on Claim 15, currently amended. The applicant respectfully submits that Claim 16 is allowable for at least the same reasons for which Claim 15, currently amended, is allowable. See, e.g., *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

IV. CLAIM REJECTION UNDER 35 USC 103(a)

Dependent Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Miller reference in view of Gauland et al., U.S. Patent No. 6,571,185. The applicant respectfully traverses.

For a valid rejection under 35 U.S.C. 103(a), “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” MPEP 2142 (italic in the original; bold added). “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.” MPEP 2143 (bold added), citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) and others.

Claim 2 depends from Claim 1, currently amended. As discussed above, the Miller reference fails to anticipate Claim 1. Accordingly, the Miller reference, the Gauland reference, or any combination of these cannot meet the *prima facie* case of obviousness for failing to teach or suggest all the limitations of Claim 2.

Dependent Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Miller reference in view of the Gauland reference. The applicant respectfully traverses.

Claim 9 depends from Claim 8, currently amended. As discussed above, the Miller

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reference fails to anticipate Claim 8. Accordingly, the Miller reference, the Gauland reference, or any combination of these cannot meet the *prima facie* case of obviousness for failing to teach or suggest all the limitations of Claim 9.

Dependent Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Miller reference in view of Norton, U.S. Patent No. 4,592,077. The applicant respectfully traverses.

Claim 3 depends from Claim 1, currently amended. As discussed above, the Miller reference fails to anticipate Claim 1. Accordingly, the Miller reference, the Norton reference, or any combination of these cannot meet the *prima facie* case of obviousness for failing to teach or suggest all the limitations of Claim 3.

Dependent Claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Miller reference in view of the Norton reference. The applicant respectfully traverses.

Claim 10 depends from Claim 8, currently amended. As discussed above, the Miller reference fails to anticipate Claim 8. Accordingly, the Miller reference, the Norton reference, or any combination of these cannot meet the *prima facie* case of obviousness for failing to teach or suggest all the limitations of Claim 10.

V. PRIOR ART MADE OF RECORD AND NOT RELIED UPON

The applicant respectfully submits that the prior art references made of record and not relied upon as listed in the Office Action, individually or in any combination, do not anticipate or render obvious the claims of the present invention.

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CONCLUSION

In view of the foregoing Amendments and Remarks, the applicants respectfully submit that the entire application is in condition for allowance. The applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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